

02862

**MASTER OF SCIENCE (DIETETICS AND
FOOD SERVICE MANAGEMENT)**

Term-End Examination

December, 2011

MFN-004 : ADVANCE NUTRITION

Time : 3 hours

Maximum Marks : 100

Note : Attempt five questions in all. Question No.1 is compulsory.

1. (a) Fill in the blanks : 10
- (i) _____ is weight in kilograms divided by the square of height in meter.
 - (ii) When globulins in plasma combines with iron and copper, the combinations are called _____.
 - (iii) _____ is vital to the utilization of calcium and phosphorous in our body.
 - (iv) The ratio between the content of the most limiting amino acid in the test protein to the content of the same amino acid in the reference protein is termed _____ score.

- (v) _____ mcg. of folate is required during pregnancy.
- (vi) Organic phosphorous is an important structural component of _____ and _____.
- (vii) The most abundant intracellular mineral is _____.
- (viii) Chromium improves insulin function thus influences _____ and lipid metabolism.
- (ix) Soyabeans are important source of isoflavones and comestans grouped as _____.
- (x) The duration of pregnancy from conception to birth is normally _____ weeks to _____ menstrual cycle.

(b) Define/Explain the following : 10

- (i) Lactogenesis
- (ii) Probiotics
- (iii) Kilo calories
- (iv) Dietary Fibre
- (v) Pernicious anaemia

2. Comment on *any four* of the following : 5+5+5+5

- (a) Individual variability of requirements.
- (b) Nutrient turn over studies
- (c) Factorial Estimation of Total Energy Expenditure.
- (d) Uncontrolled diabetes can lead to ketosis.
- (e) Factors influencing resistant starch content of foods.

3. (a) How are amino acids transported in the body, explain ? 7
- (b) Briefly describe the functions of proteins. 7
- (c) Explain the relevance of measuring body fat. 6
Enumerate the methods that are used to measure body fat. Describe only one in detail.
4. Explain briefly the following : (5+5+5+5)
- (a) Choice of cooking medium in the context of n-3 and n-6 fatty acid ratio in Indian diets.
- (b) Water balance
- (c) Absorption, transportation and utilisation of vitamin A.
- (d) Functions and assessment of vitamin K status.
5. (a) Describe the role of vitamin E in the protection of polyunsaturated fatty acids from oxidative damage. 6
- (b) Briefly explain the functions of the following : 4+4+4
- (i) Thiamine
- (ii) Vitamin C
- (iii) Pyridoxine
- (c) Comment on food sources of vitamin B₁₂. 2

6. (a) Explain the absorption, transportation and excretion of iron in the body. 8
- (b) What factors affect calcium absorption in the body, describe briefly. 8
- (c) Comment on the ill-effects of selenium deficiency in human beings. 4
7. (a) Explain the methods used in anthropometric assessment and physiological measurements for sport person. 10
- (b) What nutrient requirement and food intake pattern would you recommend for extreme environments. 8
- (c) What do you understand by the terms 'calamity' and 'emergency' ? 2
8. Write short notes on *any four* of the following :
- (a) Types of foods used in space. (5+5+5+5)
- (b) Physiological role of Zinc in our body.
- (c) Nutrient needs and recommended dietary intakes for pregnancy and lactation.
- (d) Functional Foods
- (e) Guidelines for planning balanced diets for elderly.
- (f) Energy requirements for infants.
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